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EXAMINER

QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 12/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,843

Applicant(s)

NAYAR ET AL.

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 23-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8,10,16,17,19 and 21 is/are rejected.
- 7) ☒ Claim(s) 2,11-15,18,20 and 22 is/are objected to.
- 8) ☒ Claim(s) 1-41 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-22, drawn to an apparatus for screening materials in an array, classified in class 422, subclass 102.
 - II. Claims 23-41, drawn to a process for screening an array of materials, classified in class 436, subclass 178.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another and materially different apparatus as the process of claim 23 does not recite the particulars of the apparatus of claim 1, such as a fluid permeable array support and fluid inlet and fluid outlet positioned on opposite sides of the array support and semipermeable membrane. The apparatus as claimed can be used to practice another and materially different process, such as storing and/or synthesizing materials.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Maryann Maas on 9/8/2003 a provisional election was made without traverse to prosecute the invention of I, claims 1-22. Affirmation of this election must be made by applicant in replying to this Office action. Claims 23-41 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the heat source in alignment with the window as recited in claim 2, at least one heater in contact with the cell as recited in claim 9, and spacing support between the window and array support is a toothed support in claims 6 and 7 must be shown or the feature(s) canceled from the claim(s). The current drawings show a heater

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(15) that is not the in claimed configuration. The current drawings do not show a spacing support. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to because they do not adequate show the fluid inlet and outlets. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 1, 4, 10, 16, 17 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,309,889 to Cutler et al.

Cutler et al. disclose an apparatus for screening materials in an array comprising a cell (10), upper (16) and lower (20) windows, fluid permeable array support, and semi-permeable membrane (figs. 1-20; col. 2, lines 9-15, 25-37, and 51-62; col. 3, lines 14-55; col. 4, lines 20-44; col. 6, lines 2-26; col. 8, lines 43-46; col. 11, line 48-col. 12, line 10). The cell (10) comprises a first portion (14) and second portion (22) (fig. 1). Alternatively, the first and second portions may be reasonably interpreted as the upper and lower regions of the cell. The first portion defines a passage leading to the upper window such as that described by the specification on page 13, lines 7 and 8 and shown in fig. 3 of the drawings of the immediate specification (fig. 1). The cell has at least one fluid inlet and at least one fluid outlet. The fluid inlets and outlets may be provided through the connectors (50) fitted within the holes (48) of the upper window (fig. 1;

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col. 8, lines 29-39). More explicitly, the upper window may include an inlet (88) and outlet (90), which are positioned on opposite sides of the horizontal plane on which the combination of the array support and semi-permeable membrane lie (fig. 13; col. 10, lines 52 and 53). Regarding the fluid inlets and outlets provided through the connectors (50) fitted within the holes (48) of the upper window, the alternative embodiment regarding the upper window with inlet (88) and outlet (90) appear to confirm that each of the connectors (50) fitted within the holes (48) of the upper window is specifically for a fluid inlet and a fluid outlet, such that the inlet and outlet are positioned on opposite sides of the horizontal plane on which the combination of the array support and semi-permeable membrane lie. Furthermore, it would be reasonable to assume that one of the connectors is for the fluid inlet and the other connector is for the fluid outlet. The fluid permeable array support also has a fluid inlet through the top of the support provided at the upper window on one side of the support and membrane and a fluid outlet through the bottom of the support on the other side of the support and membrane (fig. 19). The upper and lower windows are positioned within the cell adjacent the first and second portions, respectively, in alignment with the passage (figs. 1-20). The fluid permeable array support is spaced apart from and in alignment with the upper and lower windows (figs. 1-20). The semi-permeable membrane is adjacent to the array support (figs. 1-20; col. 2, lines 9-15, 25-37, and 51-62; col. 3, lines 14-55; col. 4, lines 20-44; col. 6, lines 2-26). The semi-permeable membrane may be a silicone rubber (col. 4, lines 37-43; col. 6, lines 50-57). Since the instant specification on page 18, lines 3-5 attributes silicone rubber as hydrophobic, a membrane made from silicone rubber is hydrophobic. The fluid permeable array support may be scanned with a fluorescence microscope, luminescence imager, or the like (col. 7, lines 50-54; col. 11, lines 38 and 39). At

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least one fastener (28,30) connects the first and second portions of the reaction cell (figs. 1 and 2).

In the event one would argue that one of the fluid connectors in for the fluid inlet and the other fluid connector is for the fluid outlet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have one of the fluid connectors as the fluid inlet to provide fluids into the cell and have the other fluid connector as the fluid outlet to withdraw undesired or excess liquids from the array support.

15. Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al.

Cutler et al. do not explicitly disclose a seal positioned within the reaction cell between the first portion of the cell and the window. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to include a seal positioned within the reaction cell between the first portion of the cell and the window to prevent contamination of the contents of the reaction cell from the environment and leakage of the contents of the reaction cell into the environment.

Cutler et al. do not explicitly disclose a spacing support positioned between the window and array support. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to include a spacing support positioned between the window and array support to prevent the window and array support from adhering.

16. Claims 8, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 6,063,633 to Willson, III.

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Cutler et al. disclose the semi-permeable membrane may be made from silicone rubber, polyurethane, polyethylene, polypropylene, perfluoro polymers, or cellulose acetate (col. 4, lines 37-43; col. 6, lines 50-57). Cutler et al. fail to address the material from which the array support is made. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to make the array support from alumina, such that it would be made from a material different from that of the semi-permeable membrane, since it is a preferred material in dealing with catalysts since they can simulate commercial catalysts as taught by Willson, III (col. 2, lines 14-22; col. 4, lines 30-55).

17. Claims 3, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 5,604,132 to Capuano et al or U.S. Patent No. 6,296,771 to Miroslav.

Cutler et al. do not explicitly disclose the apparatus for screening materials in an array comprising a detector, which is connected to a microprocessor, in fluid communication with the fluid outlet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to include a detector, which is connected to a microprocessor, in fluid communication with the fluid outlet to automatically detect properties of components as taught by Miroslav or Capuano et al. (Miroslav: col. 19, line 28-col. 23, line 2; Capuano et al.: abstract; col. 7, lines 40-50).

Allowable Subject Matter

18. Claims 2, 11-15, 18, 20, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They include one or more limitations in the claims.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elizabeth Quan
Examiner
Art Unit 1743

eq


Jill Warden
Supervisory Patent Examiner
Technology Center 1700